7. Accounting for Derivatives

Introduction

The preceding chapter showed that the rapid growth in derivatives, especially in the over-the-counter market, has complicated the regulation of derivative trading. This chapter discusses an equally complex question, which because of the increased use of derivatives is also a very important one: namely, how should a company account to its shareholders for the derivatives it holds? Many derivatives are costless, apart from fees, at their inception. Hence, to carry a derivative at original cost might mean no recognition at all. However, the value of a derivative generally changes over the duration of its life because of market developments. To the non-accountant, the challenge of accounting for derivatives has the quality of a riddle: how should one tell the world about a promise that might cost virtually nothing at inception, can fluctuate wildly in value over its life, and may yield the holder no net gain at all at the end (which, in the case of a hedge, is the desired outcome)?

Why and How, Simply

If a company liquidated its derivative holdings through immediate settlement, the value realized by the company would likely be something other than zero. That is, at a point in time, the company holding a derivative is essentially holding an asset (positive settlement value) or liability (negative impact on earnings and cash flow upon settlement). Accordingly, shareholders and investors in general should be able to know the asset and liability values of the derivatives that a company is holding at a point in time. In the case of a publicly traded U.S. company, or any other company that files quarterly financial statements with the U.S. Securities and Exchange Commission (SEC), the value of the company's holdings or derivatives would be disclosed on a quarterly basis. The two examples that follow illustrate mark-to-market accounting for derivatives: the adjustment of a position to its current market value.

Example:
Accounting for a Simple Speculative Position

For example, suppose in August a company expects the price of natural gas to fall below $4.50 per million Btu by the end of the year. Acting on this expectation, the company enters into a futures contract to sell 100,000 million Btu of natural gas (10 contracts) in December for $4.50 per million Btu. The transaction is speculative in that the company is assumed not to produce or hold the gas for sale. Suppose next that, contrary to the company's expectations, the price of natural gas rises in September, resulting in, say, a value for December natural gas futures of $5.00 per million Btu. At the end of September, the company has a potential liability equal to the $0.50 rise in price times the 100,000 million Btu in the December sales contract, or $50,000. The value of the company, as measured by shareholders' equity (i.e., assets minus liabilities), is also reduced by $50,000 potentially.

It is in the shareholders' interest to know that the value of the company has fallen. The drop in market value of the company's derivative holdings should be reported as a liability of $50,000 in the company's third-quarter financial statements. Shareholders' equity is $50,000 lower at the end of September as a result of the movements in the December futures prices. The company's earnings for the third quarter should be reduced by $50,000, because retained earnings and shareholders' equity form the link between the company's income statement and balance sheet.

Suppose, then, that in December the company's expectations are vindicated, and the spot price of natural gas falls to $4.00 per million Btu. The company can settle the contract or, alternatively, purchase 100,000 million Btu for $4.00 per million Btu and sell the 100,000 million Btu to the contract's counterparty for $4.50 per million Btu. Either way, the company realizes a profit of $50,000 on its derivatives trade. As a result of closing the contract, the company increases its cash holdings by $50,000 and, at the same time, erases the $50,000 liability that was reported in the third quarter, when the market value of the derivative fell by $50,000. The effect on shareholders' equity in the fourth quarter is a positive $100,000 (cash increases by $50,000 in the fourth quarter at the same time that $50,000 in liabilities carried from the third quarter is eliminated). Thus, the effect on fourth-quarter earnings equals the effect on shareholders' equity, which is a positive $100,000. For the entire year, the impact on earnings is $50,000: the positive $100,000 recognized in the fourth quarter plus the negative $50,000 recognized in the third quarter.

Example:
Accounting for a Simple Hedging Position

Suppose the situation is identical to that described above, except that the company has an inventory of 100,000 million Btu of natural gas that it plans to sell in December. The company's cost of the inventory is, for this example, $450,000. The company includes this

amount as inventory on its balance sheet. The company wants to protect the value of its inventory until its sale in December. In this case the company uses the futures contract (sale of 100,000 million Btu in December for $4.50 per million Btu) to protect the value of its inventory. As before, the contract sales price for December is $4.50, the December natural gas futures price rises to $5.00 in September, and the December spot price turns out to be $4.00. Additionally, suppose the spot price of natural gas rises to $4.95 in September. Shouldn't the accounting for derivatives differentiate between speculation and hedging?

Following the mark-to-market valuation method in the first example, at the end of September, the value of the derivative declines by $50,000, increasing the company's liabilities by that amount. However, with the spot price of natural gas at $4.95 in September, the inventory has increased in value by $45,000 ($4.95 times 100,000 in liquidation value of the inventory minus $450,000 in initial cost of the inventory carried on the balance sheet). If both the derivative position and inventory are marked to market, the effect on shareholders' equity is the gain in value on the inventory ($45,000) less the increase in liabilities ($50,000) or a negative $5,000. A negative $5,000 would also be the effect on earnings in the third quarter. The impacts on reported earnings and the balance sheet should include the change in value of the hedged item as well as the change in value of the derivative used to hedge the value of the item.

In December, when the inventory is actually sold, the company can settle its contract and sell its natural gas inventory of 100,000 million Btu, realizing $450,000 in cash. Recalling that the inventory was marked to market at $495,000 at the end of September, the net effect on the company's assets in its fourth-quarter financial report is a negative $45,000 (i.e., an increase in cash of $450,000 less the elimination of $495,000 in inventory). On the liabilities side, the $50,000 from the third quarter is eliminated when the December contract is settled. The net effect on shareholders' equity in the fourth quarter is a positive $5,000: a negative $45,000 in asset value change plus a $50,000 reduction in liabilities. A positive $5,000 is also the effect on fourth-quarter earnings. For the year, the total effect on earnings is zero: a negative $5,000 from the third quarter plus a positive $5,000 from the fourth quarter. The intended effect of the hedge was just to maintain inventory value from August until sale in December, which it did. Thus, a zero total effect on earnings appears reasonable.

Several observations emerge from these two examples of accounting for energy commodity derivatives:

- Derivatives can become potential liabilities or assets when their value changes. Accordingly, shareholders should be informed of the impact of the changes on the value of their equity in the company. Companies need to report their derivative holdings in their quarterly reports to shareholders. Further, shareholders should be informed on an interim basis (quarterly for most energy-related companies) as well as when the derivative is settled.
- Market prices are the measure of derivative value. Current market values should be the measure used to track changes in derivative holdings. That is, mark-to-market valuation should be employed. The situations in which current market values are not readily available are discussed in Chapter 5.
- Changes in the value of the derivative can be reflected as an asset or liability as appropriate. The changes in the value of the derivative will also have a direct effect on shareholders' equity (i.e., assets minus liabilities). Since a company's balance sheet and income statement are linked directly through retained earnings and shareholders' equity, the change in the value of derivatives should be included in earnings.
- If a company uses a derivative to hedge the value of an asset, liability, or firm commitment (a firm commitment is an agreement that specifies all significant terms, including a fixed price, the quantity to be exchanged, and the timing of the transaction), then reporting changes in the value of the hedged item as well as in the value of the derivative is appropriate. When changes in the value of the derivative exactly offset changes in the value of the hedged item, there should be no impact on earnings. When the derivative is not effective in exactly offsetting changes in the value of the hedged item, then the ineffective amount should be included in earnings.

Financial Accounting Standards Board Statement 133

The Financial Accounting Standards Board (FASB) has developed standards for reporting of derivatives and hedging transactions. According to the FASB:

> *Since 1973, the Financial Accounting Standards Board (FASB) has been the designated organization in the private sector for establishing standards of financial accounting and reporting. Those standards govern the preparation of financial reports. They are officially recognized as authoritative by the Securities and Exchange Commission (Financial Reporting Release No. 1, Section 101) and the American Institute of Certified Public Accountants (Rule 203, Rules of Professional Conduct, as amended May 1973 and May 1979). Such standards are essential to the efficient functioning of the economy because investors, creditors, auditors and others rely on credible, transparent and comparable financial information.*

The Securities and Exchange Commission (SEC) has statutory authority to establish financial accounting and reporting standards for publicly held companies under the Securities Exchange Act of 1934. Throughout its history, however, the Commission's policy has been to rely on the private sector for this function to the extent that the private sector demonstrates ability to fulfill the responsibility in the public interest.[105]

After more than 6 years of deliberations, the FASB issued Statement 133, *Accounting for Derivative Instruments and Hedging Activities*, in June 1998. Amended by Statement 137 (June 1999) and Statement 138 (June 2000), Statement 133 became effective for fiscal years that began after June 15, 2000, but adoption by a company as early as the third quarter of 1998 was allowed. The impetus for Statement 133 is rooted in at least three developments: the growth in uses of derivatives (see Figure 15 in Chapter 6), the growth in the variety and complexity of derivatives (discussed in Chapter 6), and problems with previous accounting and reporting practices. The FASB identified four problem areas in previous practices:[106]

- The effects of derivatives were not transparent in basic financial statements.
- Accounting guidance for derivative instruments and hedging activities was incomplete.
- Accounting guidance for derivative instruments and hedging activities was inconsistent.
- Accounting guidance for derivatives and hedging was difficult to apply.

According to the FASB, Statement 133 mitigates these four problems:

It increases the visibility, comparability, and understandability of the risks associated with derivatives by requiring that all derivatives be reported as assets or liabilities and measured at fair value. It reduces the inconsistency, incompleteness, and difficulty of applying previous accounting guidance and practice by providing comprehensive guidance for all derivatives and hedging activities. The comprehensive guidance in this Statement also eliminates some accounting practices, such as "synthetic instrument accounting" that had evolved beyond the authoritative literature.

In addition to mitigating the previous problems, this Statement accommodates a range of hedge accounting practices by (a) permitting hedge accounting for most derivative instruments, (b) permitting hedge accounting for cash flow hedges of expected transactions for specified risks, and (c) eliminating the requirements in Statement 80 that an entity demonstrate risk reduction on an entity-wide basis to qualify for hedge accounting. The combination of accommodating a range of hedge accounting practices and removing the uncertainty about the accounting requirements for certain strategies should facilitate, and may actually increase, entities' use of derivatives to manage risks.[107]

Statement 133, including the full text of implementation issues, runs to 795 pages and has been characterized by one of the "Big Five" accounting firms as ". . . arguably the most complex accounting standard ever issued by the FASB."[108] Much of the material concerns derivatives related to interest rates, foreign exchange, and other purely financial issues and will not be reviewed here. The remainder of this section provides a general overview of how Statement 133 applies to accounting for energy derivatives.[109] It is not intended as a guide to implementing Statement 133. The main questions are: What is a derivative? What are hedges and how can they be identified? How should hedges be reported in company financial statements?

Derivatives According to Statement 133

In Statement 133, the key elements of the definition of a derivative are:[110]

- A derivative's cash flow or fair value must fluctuate and vary based on the changes in one or more underlying variables.
- The contract must be based on one or more notional amounts or payment provisions or both, even though title to that amount never changes hands.

[105] See web site http://raw.rutgers.edu/raw/fasb/facts/index.html.

[106] Federal Accounting Standards Board, *Accounting for Derivative Instruments and Hedging Activities* (Norwlak, CT, June 1998), pp. 144-145. The following statements issued by the FASB prior to Statement 133 related to reporting of derivatives: SFAS No. 15—Accounting by Debtors and Creditors for Troubled Debt Restructuring; SFAS No. 80—Accounting for Futures Contracts; SFAS No. 114—Accounting by Creditors for Impairment of a Loan (an amendment of FASB Statement Nos. 5 and 15); SFAS No. 115—Accounting for Certain Investments in Debt and Equity Securities; SFAS No. 119—Disclosures about Derivative Financial Instruments and Fair Value of Financial Instruments (an amendment of FASB Statements 105 and 107); SFAS No. 125—Accounting for Transfers and Servicing of Financial Assets and Extinguishments of Liabilities; and SFAS No. 127—Deferral of the Effective Date of Certain Provisions of FASB Statement No. 125 (an amendment of FASB Statement No. 125).

[107] Federal Accounting Standards Board, *Accounting for Derivative Instruments and Hedging Activities* (Norwlak, CT, June 1998), pp. 144-145.

[108] R. Sullivan, C.P. Jones, and L. Le Guyader, "FAS 133: New Rules for Derivatives," web site www.pwcglobal.com/extweb/newcolth.nsf/DocID/B8953173DFDE5BB88525694A004BE549 (February 2002).

[109] The discussion draws heavily on Ernst & Young, *Financial Reporting Developments: Accounting for Derivative Instruments and Hedging Activities*, web site www.ey.com/global/vault.nsf/US/Library9/$file/BB0877.pdf (July 2000).

[110] Ernst & Young, *Financial Reporting Developments: Accounting for Derivative Instruments and Hedging Activities* (July 2000), p. 3.

The underlying and notional amounts determine the amount of settlement, whether or not a settlement is required.

- The contract requires no initial net investment, or an insignificant initial net investment relative to the value of the underlying item (as would be the case for a purchased option, for example).
- The contract can readily be settled by a net cash payment, or with an asset that is readily convertible to cash.
- All derivatives are carried on the balance sheet at fair market value.

The FASB defined a derivative by the properties of a derivative rather than by enumerating what contracts and instruments qualify as derivatives. However, the FASB did specify certain contracts that should not be accounted for as derivatives even though they would otherwise qualify as derivatives under Statement 133. The list is lengthy, and nearly all items on it are of a purely financial type (e.g., traditional life insurance). The one exception that is clearly relevant for energy commodities is the normal purchase and sale of commodities for which net settlement is not intended, delivery is probable, and the commodity is expected to be used or sold in the normal course of business (the "normal purchase or sales exception"). The forward purchase of natural gas by a petrochemical plant for use as a feedstock in the following month is an example of a normal purchase exception.

Hedges According to Statement 133

To understand the importance of appropriately defining hedges, recall the difference between the speculator and hedger in the examples in the first section of this chapter. In particular, the hedger, using a derivative to protect the value of an asset (100,000 million Btu of natural gas in storage in the example), reported not only changes in the value of the derivative (the futures contract to sell 100,000 million Btu at $4.50 per million Btu in December in the example) in earnings but also changes in the value of the hedged item. The rationale for including both amounts in earnings is that in a hedge, the company intended for the derivative to offset changes in the value of the hedged item.

Now turn to the case of the speculator. Suppose in the example that the spot price of natural gas in December was $5.00 per million Btu instead of $4.00. With a December spot price of $5.00, the speculator would have to pay $50,000 in cash instead of receiving $50,000 to settle the December futures contract. The settlement would decrease the company's reported earnings by $50,000. To the extent that the speculating company owns other assets (liabilities) that gained (declined) in value with a $5.00 spot price in December, the company might be tempted to include those gains in its reported earnings as if the company were a hedger, thereby reducing the negative impact on reported earnings. In this example, there would be no such temptation if the spot price of natural gas were $4.00 in December. It is clear, however, that improper use of hedge accounting can cover up adverse impacts on earnings stemming from speculative uses of derivatives.

In Statement 133, the FASB addresses hedging in terms that are rigorous and comprehensive. Many of the issues addressed by the FASB are not directly relevant to energy commodity derivatives and are not reviewed here. The main overall issues are definition of hedges, accounting for hedges, and criteria for hedging. The last issue is perhaps the most straightforward.

Criteria for Hedging

The criteria for hedging require the company, at the inception of the hedge, to identify and document:

- The hedging relationship (e.g., changes in the value of the inventory of natural gas should be protected by a futures contract to sell natural gas in December)
- The derivative (e.g., futures contract for December delivery of 100,000 million Btu of natural gas at $4.50 per million Btu)
- The hedged item (e.g., 100,000 million Btu of natural gas in storage)
- The nature of the risk being hedged (e.g., declines in the December spot price of natural gas)
- How the effectiveness of the hedging instrument (derivative) will be assessed on an ongoing basis (e.g., the amount, or relative amount, by which the changes in the value of the December future sales contract offset changes in the market value of the natural gas in storage).

These requirements mean that hedged items cannot be identified after a derivative contract has been made. Thus, in the example, the speculator could not offset his losses by identifying a hedged item *ad hoc*. Also, shareholders will know what the company's hedge strategy is and what items are being hedged. Conoco's disclosure about its derivatives and hedging provides a good example of documentation.[111]

Definition of Hedges

In Statement 133, the FASB allows special accounting treatment for *fair value hedges*, *cash flow hedges*, and *foreign currency hedges*, the first two of which are directly relevant to energy commodity derivatives. In a fair value

[111] Conoco Inc., "IR-Gram: Conoco's Hedging Program," www.conoco.com / investor / investor-irgram_1001.asp (October 9, 2001).

hedge, a specified derivative is used to protect the existing value of assets, liabilities, or firm commitments. The criteria for a hedge, a summary of which appears above, must be satisfied in order for the transaction to qualify for hedge accounting. Fair value for energy commodity hedges should be measured by market value; that is, mark-to-market valuation should be used.

The previous example, where a futures sales contract was used to protect the value of a company's inventory of natural gas, is an example of a fair value hedge. The company entered into a futures contract to deliver 100,000 million Btu of natural gas in December for $4.50 in order to protect its inventory against a price drop when the company sells the natural gas in December. The company is hedging changes in the inventory's fair value, not changes in anticipated cash flow from its planned sale. Hence, fair value hedge accounting is appropriate.

A cash flow hedge uses a derivative to hedge the anticipated future cash flow of a transaction that is expected to occur but whose value is uncertain. This contrasts with a firm commitment, where price, quantity, and delivery date have been fixed. Hedging the value of a firm commitment is a fair value hedge.

An example of a cash flow hedge is a petrochemical company that, in August, fully intends to purchase 100,000 million Btu of natural gas in December and wants to protect its cash flow from an unforeseen rise in the purchase price of natural gas. In order to hedge its exposure to rising natural gas prices, the company can, in August, enter into a contract to purchase 100,000 million Btu at the December futures price of, say, $4.50 per million Btu. By this action, hedging is used to lock in the amount of cash flow to be paid for natural gas in December.

Cash flow hedges must meet the following additional criteria to qualify for hedge accounting:

- The expected transaction must be explicitly identified and formally documented.
- Occurrence of the expected transaction must be probable.
- The expected transaction must be with a third party (i.e., external to the company).

Accounting for Hedges

Hedge Effectiveness

The concept of hedge effectiveness is important in two ways in accounting for hedges. First, for all types of hedges, a derivative is expected to be *highly effective* in offsetting changes in fair value stemming from the risk being hedged. In Statement 133, the FASB was vague as to how much ineffectiveness will be tolerated before a derivative no longer qualifies for hedge accounting. The statement does make reference to prior guidance in which 80 percent is considered effective (i.e., the derivative offsets at least 80 percent of the change in fair value attributable to the risk being hedged). Nevertheless, Statement 133 requires a company to specify how it will measure effectiveness over the life of a derivative.

Second, hedge ineffectiveness will generally be included in earnings in the quarter in which it occurs. Ineffectiveness is the amount by which the change in value of the derivative does not exactly offset changes in the value of the hedged item. In the earlier example, in which the value of natural gas inventory was being hedged in August, the derivative was a contract for delivery of 100,000 million Btu of natural gas in December for $4.50 per million Btu and the hedged item was the company's inventory of 100,000 million Btu of natural gas with an initial value of $450,000. In September, the spot price rose to $4.95 per million Btu and the December futures price rose to $5.00. In the third quarter, the derivative declined in value by $50,000 and the inventory increased in value by $45,000. In this example, the hedge ineffectiveness was negative $5,000, which would be recognized in earnings.

Fair Value Hedges

For hedges qualifying as fair value hedges under Statement 133: (a) the gain or loss on the derivative will be recognized currently in earnings, and (b) the change in fair value of the hedged item attributable to the hedged risk will be recognized in earnings as well as adjusting the balance sheet value of the hedged item. The earlier example of a hedge illustrates these concepts. In the example, a company hedges its August inventory of 100,000 million Btu of natural gas at $4.50 per million Btu. The hedging instrument (derivative) is the December sales contract, the hedged item is the company's natural gas inventory, and a decline in natural gas prices is the risk being hedged.

Cash Flow Hedges

A cash flow hedge differs from a fair value hedge in a way that makes the accounting more complex. In a fair value hedge, the hedged item is an asset, liability, or fixed commitment. Assets and liabilities are carried on the balance sheet, and changes in the fair value of a fixed commitment are carried on the balance sheet during the duration of the hedge. With a cash flow hedge, it is the cash flow from an expected future transaction that is being hedged, and so there is no balance sheet entry for the hedged item. This reporting practice reflects the fact that, while an expected transaction is an asset or liability from an economic perspective, it is not recognized as such on balance sheets.

Without further refinement of the accounting guidelines, only changes in the value of the derivative would be recognized in current earnings in a cash flow hedge (Table 15). If this were in fact the case, there would be no benefit to hedge accounting for cash flow hedges. The accounting would be the same as the accounting for non-hedge (speculative) holdings of derivatives. Yet the company hedging the cash flow of an expected transaction is not seeking to profit from price movements but rather to stabilize future cash flows.

Statement 133 does provide for cash flow hedges to be reported differently from speculative uses of derivatives. In a cash flow hedge, the change in the fair value of the hedging instrument (i.e., derivative), to the extent that the hedge is effective, is reported in "other comprehensive income." Other comprehensive income consists of those financial items that are included in shareholders' equity but not included in net income. That is, until the expected transaction takes place, the effective part of the hedge is not recognized in current earnings. When the expected transaction does take place, the effective part of the hedge is recognized in the income statement, and the earlier recognized amounts are removed from other comprehensive income.

Consider the earlier example of the petrochemical company locking in the price of its December purchase of natural gas that it plans to use as a feedstock. The company documents that it will be using a futures contract to stabilize cash flow associated with this purchase, and so it is a cash flow hedge. In August, the company enters into a futures contract for the purchase of 100,000 million Btu of natural gas in December at $4.50 per million Btu. If the December contract price rises to $5.00 per million Btu by the end of September, the value of the contract will increase by $50,000, and that amount will be included as an asset in the company's third-quarter report to shareholders. The effect on reported third-quarter earnings will be zero, however. In the cash flow hedge, the hedging instrument is fully effective, and the expected transaction will occur in December, which is in the fourth quarter; however, the $50,000 gain in the value of the derivative will be included in other comprehensive income in the third quarter.

If the hedge of the future cash flow transaction is not fully effective, then the accounting treatment of changes in the value of the derivative is somewhat more involved. A perfectly effective hedge is one in which changes in the value of the derivative exactly offset changes in the value of the hedged item or expected cash flow of the future transactions in reporting periods between the inception of the hedge and the hedged instrument. The part of the change in the value of the derivative that is not effective in offsetting undesired changes in expected cash flow is recognized in the income statement. For example, the expected transaction might be a natural gas delivery in St. Louis, but the hedge is for natural gas delivered at Henry Hub, Louisiana. In this case, the delivery location of the item being hedged is different from the delivery point of the hedging instrument. To the extent that changes in the price of natural gas in St. Louis differ from changes in the value of the Henry Hub-based hedge, there will be hedge ineffectiveness.

The requirement to reassess and report hedge ineffectiveness of cash flow hedges frequently can increase the volatility of reported earnings and add to the burden of reporting; however, Statement 133 does provide relief for commodity forward contracts, including energy commodities. When certain criteria are met, the hedge can be considered to be perfectly effective, thereby simplifying the accounting. Namely, an entity may assume that a hedge of an expected purchase of a commodity with a forward contract will be highly effective and that there will be no ineffectiveness if: (1) the forward contract is for purchase of the same quantity of the same commodity at the same time and location as the hedged expected purchase; (2) the fair value of the forward contract at inception is zero; (3) either the change in the discount or premium on the forward contract is excluded from assessment of effectiveness and included directly

Table 15. Balance Sheet and Income Statement Impacts of Cash Flow and Fair Value Hedges

Type of Derivative	Balance Sheet Impact	Income Statement Impact
Fair Value Hedge	Derivative (asset or liability) is reported at fair value. Hedged item is also reported at fair value.	Changes in fair value are reported as income/loss in income statement. Offsetting changes in fair value of hedged item are also reported as income/loss in income statement.
Cash Flow Hedge	Derivative (asset or liability) is reported at fair value. Changes in fair value of derivative are reported as components of Other Comprehensive Income (balance sheet).	No immediate income statement impact. Changes in fair value of derivative are reclassified into income statement (from Other Comprehensive Income in the balance sheet) when the expected (hedged) transaction affects the net income.
Speculative Transaction	Derivative (asset or liability) is reported at fair value.	Changes in fair value are reported as income/loss in income statement. (There will be no offsetting changes in the fair value of the hedged item.)

Source: FASB Statement 133.

in earnings or the change in expected cash flows on the expected transaction is based on the forward price for the commodity.

In this case, a company assumes that changes in the fair value of the derivatives exactly offset changes in the hedged item. In a cash flow hedge, other comprehensive income changes by exactly as much as the derivative and there is no impact on earnings. In a fair value hedge, the hedged item changes by exactly the same amount as the changes in the fair value of the derivative. In both types of hedges, the derivative is carried at fair value in the balance sheet.

Conclusion

Market developments can change the value of a company's holdings of derivatives prior to their stated settlement date. Should liquidation be required, a company could be liable for outlays to settle its derivative position. On the other hand, a company, and its shareholders, could benefit from an increase in their value. Shareholders should be aware of these developments, and companies should report changes in the value of their derivative holdings on a periodic basis. Changes in the value of derivatives should be reflected both on the balance sheet and in earnings. Mark-to-market should be the basis for valuing derivatives. When a derivative is used to hedge the value of an asset, liability, or fixed commitment, the effects of price changes on the derivative and the hedged item should be reported.

Standards for publicly traded companies' reporting of the value of derivatives (Statement 133) were recently issued by the Financial Accounting Standards Board (FASB) for fiscal years beginning after June 15, 2000. This standard is possibly the most complex and extensive standard ever issued by FASB. Statement 133 provides rigorous guidance on accounting for hedges and provides for somewhat different treatment of hedges of balance sheet items versus hedges of the cash flow of a future transaction for which there is no corresponding balance sheet item. Mark-to-market valuation of derivatives should be used wherever possible according to the standard. The standard is somewhat general in guidance when this is not possible, and valuation could be a component of the standard that is likely to be revisited. Other areas of possible controversy are the scope of the definition of derivatives, which appears to be broad in Statement 133, and interactions with other reporting standards.